

CHERNASOV, L. M.

Chernasov, L. M. - "The effect of the physical properties of foundry core mixture components on their friability," Nauch. Trudy (Dnepropetr. metallurg. in-t in. Stalina), Issue XV, Liteynoye proizvodstvo. Metallovedeniye, 1948, p. 49-61.

SO: U-3850, 16 June 53, (Letapis 'Zhurnal 'nykh Statey, No. 5, 1949).

CHERKASOV, I. M.

USSR/Metallurgy - Cast Iron, Technology May 52

"Antifriction Cast Iron From the Unalloyed Furnace Charge," V. S. Gudynovich, I. M. Cherkasov, Engineers, Dnepropetrovsk Metallurgical Inst

"Litcy Proizvod" No 5, pp 21, 22

PA 228T93  
Describes procedure of obtaining antifriction cast iron in cupola furnace with addn of copper. Discusses possibility of substituting copper cast iron as antifriction metal for perlitic Cr-Ni cast iron, smelting of which requires addn of naturally alloyed cast irons or steel scrap sufficiently

228T93

rich with Cr and Ni. Notes that, Cu has favorable effect on castability of cast iron.

228T93

- [illegible]

CHERKASOV, L.M.

SKOMOROKHOV, S.A. [author]; CHERKASOV, L.M.

Remarks to S.A.Skomorokhov's article "New methods of controlling the fluidity and viscosity of core mixtures." Lit.proizv. no.9:32-3 of cover. S-0 '53.  
(MLRA 6:9)

(Founding) (Skomorokhov, S.A.)

CHERKASOV, L.M.; KORYAK, P.Ye.

Molding casting patterns by means of a sand slinger. Lit.  
proizv. no.10:3. N-D '53. (MLRA 6:12)  
(Patternmaking) (Sand, Foundry)

✓ Gas-Pressure Risers for Casting Aluminium Alloys. I. M. Cherkasov, G. A. Kaplanovskiy, T. I. Pavlovskiy, and A. P. Lukin. Litanskoy Proizvodstvo, 1969, (6), 1-3. — (In Russian).  
Gas pressure (3-4 atm.) was obtained in risers by placing in the riser cavity a gas-generating capsule. This was made in the form of a ball, the core of which contained a mixture of wood flour and clay (1 part to 7 parts, resp.), which was then coated with silica flour bonded with waterglass, and dried. The onset of gas pressure was controlled by the thickness of the coating. Denser castings with smaller vol. of risers were obtained.—V. K.

(3)

LF

LF

0006

CHERKASOV, L.M., kandidat tekhnicheskikh nauk; PAVLOVTSEVA, N.I., inzhener.

Mold paint as a cause for sulfur absorption by the cast iron of  
the mold. Trudy Ural. politekh. inst. no.60:103-111 '56.  
(MLRA 9:10)

(Molding (Founding)) (Cast iron--Metallography)

*CHERKASSOV, L.M.*

PAVLOVTSEVA, N.I., inzh.; CHERKASSOV, L.M., dots.

Formation of ingot cracks [with summary in English]. Stal' 17  
no.9:800-804 S '57. (MIRA 10:10)

1.Zavod im. Dzerzhinskogo.  
(Steel ingots)



Mod paint as the  
iron rail well

The above paint  
is a high S content  
material. The  
content of S in the  
paint is about 10%  
and the surface of the  
paint is very rough.  
A higher content is recommended  
than a low-S material. The  
content of S in the paint is  
about 10% of a paint containing  
cupola coke (0.5% cryptocrystalline  
iron (phosphorus) 20.

for 7<sup>th</sup>  
MT

SOV/133-58-6-30/33

AUTHORS: Pavlovtseva, N.I., Engineer and Cherkasov, L.M., Docent

TITLE: The Influence of the Technology of Manufacturing Moulds for Casting Ingot Moulds on Their Durability in Operation (Vliyaniye tekhnologii izgotovleniya form izlozhnits na ikh stoykost' v rabote)

PERIODICAL: Stal', 1958, Nr 6, pp 569 - 574 (USSR).

ABSTRACT: On the basis of an analysis of statistical material accumulated on the life of an ingot mould and investigations of used ingot moulds and semi-permanent mould and mould frames, the influence of technology of production of moulds for casting ingot moulds is discussed. It is concluded that:

- 1) Cast iron is insensitive to notches only under operating conditions at normal temperatures. In the operation of ingot mould under conditions of rapidly changing thermal loads, surface defects at elevated temperatures can act as notches, leading to an early appearance of cracks. Therefore, the presence on the inside or outside surface of ingot moulds of indentations, fissures, distortions, streaks of paint increase the formation of cracks.
- 2) A large part of these defects is concentrated against the longitudinal joints of frames for semi-permanent moulds.

Card 1/3

SOV/133-58-6-30/33

The Influence of the Technology of Manufacturing Moulds for  
Casting Ingot Moulds on Their Durability in Operation

Therefore, it is particularly important to dress and dry joints.

3) Bandages for ingot moulds should be cast with rounded internal edge and a clean surface. 4) Insufficient insulation of massive flanges of mould frames with a moulding sand increases the cooling of iron in the walls of ingot moulds opposite the joints of frames and increases the non-uniformity of the structure of metal across the wall thickness of ingot moulds. The latter often causes the end of ingot-mould life due to cracks along the joint after only a few ingots were cast.

5) The use of frames with diagonal joints did not increase the life of ingot moulds.

6) The presence of differences in the wall thickness above 5 - 8 mm, decreasing the wall thickness, decreases the durability of ingot moulds and leads to an acceleration of the formation

Card 2/3

SOV/133-58-6-30/33  
The Influence of the Technology of Manufacturing Moulds for Casting  
Ingot Moulds on Their Durability in Operation

of longitudinal cracks.

There are 9 figures and 3 Soviet references.

ASSOCIATIONS: Zavod im. Dzerzhinskogo (Plant imeni Dzerzhinskiy))  
and Dnepropetrovskiy metallurgicheskiy institut  
(Dnepropetrovsk Metallurgical Institute)

Card 3/3      1. Molds--Production    2. Cast iron--Applications    3. Cast iron  
                 --Fracture    4. Cast iron--Casting

18.4000

77469

SOV/133-60-1-30/30

AUTHORS:

Cherkasov, L. M. (Candidate of Technical Sciences,  
Kolesnik, L. A. (Engineer), Gembera, A. Yo., Nemykin,  
N. P.

TITLE:

Casting of Ingot Molds From Mixtures of Foundry and  
Conversion Cast Irons of First Melt

PERIODICAL:

Stal', 1960, Nr 1 pp 93-95 (USSR)

ABSTRACT:

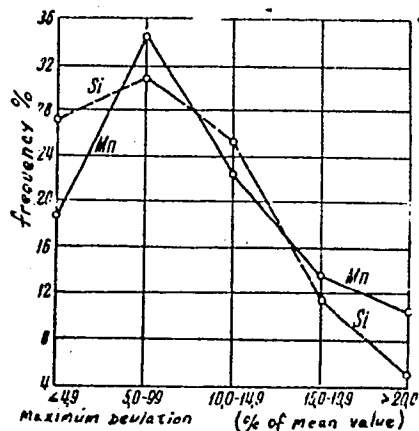
A mixture of the first melt of foundry and conversion  
cast iron was proposed, for casting ingot molds. The  
mixture should contain minimum 0.8% Si and maximum 1.2%  
Mn. To achieve better mixing in ladle, pouring  
was done in the following order: (1) Hot foundry cast  
iron at minimum tapping temperature 1,3800° C and (2)  
conversion cast iron at temperature 1,300° C. Mixing  
of cast iron permits the use of cast iron within a  
wide range of chemical composition. As a result of  
such modification, the structure molds improves, and  
durability increases.

Card 1/4

Casting of Ingot Molds From Mixtures  
of Foundry and Conversion Cast Irons  
of First Melt

77469

SOV/133-60-1-30/30



Card 2/4

Maximum deviations in silicon and manganese content  
in mixed cast iron (frequency curve).

Casting of Ingot Molds From Mixtures of  
Foundry and Conversion Cast Irons  
of First Melt

77469  
SOV/135-60-1-50/50

ASSOCIATION:

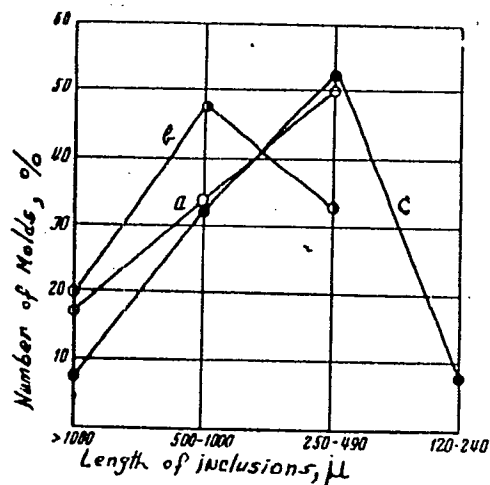
Durability for all types of the latter is 10-20% higher than that of molds from foundry cast iron: this is explained by the change in microstructure which in mixed cast iron has a higher content of pearlite and finer graphite inclusions (see Fig. 5). The metallographical investigations were done by Kvochina, Z. I. of Krivoy Rog Steel Plant ("Krivorozhstal"). There is 1 table; 7 figures; and 2 Soviet references.  
Dnepropetrovsk Metallurgical Institute and Krivoy Rog Steel Plant (Dnepropetrovskiy metallurgicheskiy institut i Zavod "Krivorozhstal")

Card 3/4

Casting of Ingot Molds From Mixtures of  
Foundry and Conversion Cast Irons  
of First Melt

77469  
SOV/133-60-1-30/30

Fig.5. Classification of molds according to size (length) of graphite  
inclusions in their structure (frequency curves).  
(a) Mold of foundry cast iron; (b) mold of conversion cast iron;  
(c) mold of mixed cast iron.



Card 4/4



CHERKASOV, L.M., kand.tekhn.nauk; KAKUSHKIN, S.V., inzh.; CHEBOTAREV, M.B.,  
inzh.; KIRIYA, G.Sh., inzh

Improving the design of ingot molds and using converter pig iron  
for their founding. Stal' 23 no.7:618-621 J1 '63. (MIRA 16:9)

1. Dnepropetrovskiy metallurgicheskiy institut i zavod im. Petrovskogo.  
(Ingot molds—Design and construction)  
(Iron founding)

CHERKASOV, L.M.; PAVLENKO, I.I.; KOLESNIK, L.A.

Effect of the nature of cast iron and crystallization conditions  
on the characteristics of the macrostructure. Izv. vys. ucheb.  
zav.; Chern. met. 7 no.8:155-160 '64. (MIRA 17:9)

1. Dnepropetrovskiy metallurgicheskiy institut.

CHERKASOV, L.M., kand.tekhn.nauk; KIRIYA, G.Sh., inzh.

Cooling conditions for chill cast bottom plates.  
Mashinostroenie no.6:57-59 N-D '65.

(MIRA 18:12)

CHERKASOV, L.M., kand. tekhn. nauk; PAVLENKO, I.I., inzh.; KOLESNIK, L.A.,  
inzh.

Effect of the chemical composition of blast furnace cast iron  
and its preliminary treatment on the formation of scabs in the  
corners and bottom part of ingot molds. Lit. proizv. no.12:  
23-25 D '65. (MIRA 18:12)

PEREPEIKIN, O.V.; CHERKASOV, L.N.; KORMER, V.A.; BAL'YAN, Kh.V.

Synthesis and properties of allene hydrocarbon derivatives.

Part 1: Synthesis and properties of alkyl and arylallene  
alcohols. Zhur. ob. khim. 35 no.3:574-578 Mr '65.

(MIRA 18:4)

1. Leningradskiy tekhnologicheskii institut imeni Lensovetu.

CHERKASOV, L.N.; KORMER, V.A.; BAL'YAN, Kh.V.

Synthesis and properties of derivatives of allene hydrocarbons.  
Part 2: Synthesis and properties of carbocyclic and heterocyclic allene alcohols. Zhur. ob. khim. 35 no.4:616-619 Ap '65.  
(MIRA 18:5)

1. Leningradskiy tekhnologicheskii institut imeni Lensoveta.

CHERKASOV, Mikhail Ivanovich; AL'BEVSKIY, A.V., redaktor; VARGANOVA, A.N.,  
redaktor izdatel'stva

[Flower gardens; an album] TSvetniki; al'bom. Moskva, Izd-vo  
Ministerstva kommunal'nogo khoziaistva RSFSR, 1956. 288 p.  
(Gardens) (MLRA 9:12)

CHERKASOV, Mikhail Ivanovich; KOLESNIKOV, A.I., red.; AIR-BABAMYAN,  
Ya.A., red.; VARGANOVA, A.N., red.izd-va; SALAZKOV, N.P.,  
tekhn.red.

[Landscape composition of parks and gardens] Kompozitsii zelenykh  
nasazhdenii. Moskva, Izd-vo M-va kommun.khoz.RSFSR, 1960. 344 p.  
(MIRA 13:12)

(Landscape gardening)



CHERKASOV, Mikhail Sergeyevich; CHLOYAN, M., red.; KARZHAVINA, Ye.,  
tekhn.red.

[Industrial Lipetsk] Industrial'nyi Lipetsk. Izd.2., dop.,  
perer. Lipetsk, Lipetskoe knizhnoe izd-vo, 1959. 92 p.  
(Lipetsk--Description) (Lipetsk--Industries) (MIRA 13:2)

CHERKASOV, N.

Author's name (if known) (if known)

Pocket inhalers. Nauka i zhizn' 22 no.12:50 D '55. (MLRA 9:2)  
(Inhalation (Therapeutics))

CHERNASOV, N. A.

Kirpichnaya Kladka. [Bricklaying]. Kiev, Gostekhizdat, 1952. 136 p.

SO: Monthly List of Russian Accessions, Vol 6 No 4, July 1953

CHERKASOV, N. A.

CHERKASOV, N. A.: "Investigating the ashes of brown coal from the Aleksandriya deposits as a raw material for binding materials". Kiev, 1954. Min Higher Education USSR, Kiev Construction Engineering Inst. (Dissertation for the Degree of Candidate of Science of Technical Sciences)

SO: Knizhnaya Letopis', No. 41, 8 Oct 55

CHERKASOV, N.A.

DOBROVOL'SKIY, A.V., redaktor; SKACHKOV, I.A., inzhener, redaktor; CHERKASOV, N.A., redaktor; VORTMAN, Z.Ya., tekhnicheskiy redaktor

[Structural ceramics; a catalog and handbook] Stroitel'naya keramika; katalog-spravochnik. Pod red. A.V.Dobrovol'skogo i I.A.Skachkova. Izd. 2-e. Kiev, Gos. izd-vo tekhn. lit-ry USSR, 1954. 119 p. (MLRA 8:3)

1. Ukraine. Upravleniye po delam arkhitektury i stroitel'stva. 2. Chlen-korrespondent Akademii arkhitektury SSSR. (for Dobrovol'skiy)
3. Deystvitel'nyy chlen Akademii arkhitektury USSR (for Dobrovol'skiy)  
(Ceramic materials)

CHERKASOV, Nikolay Antonovich

CHERKASOV, Nikolay Antonovich, kandidat tekhnicheskikh nauk; ALEKSANDROVSKIY, A.,  
redaktor; ZELENIKOVA, Ye., tekhnicheskiiy redaktor

[Masonry work] Kamennye raboty. Kiev, Gos.izd-vo lit-ry po stroit.  
i arkhitekt. USSR, 1957. 205 p. (MLRA 10:9)  
(Masonry)

SLOBODYANIK, Ignat Yakovlevich [Slobodiansky, I.IA.], kand.tekhn.nauk;  
PASHKOV, Igor' Aleksandrovich [Pashkov, I.O.], kand.tekhn.nauk;  
CHUPRUNENKO, Yekaterina Vasil'yevna [Chuprunenko, IE.V.], kand.  
tekhn.nauk; CHERKASOV, Nikolay Antonovich [Cherkasov, M.A.], kand.  
tekhn.nauk; LYSINA, Nina Borisovna, inzh.; RUBINOVICH, Esfir'  
Abramovna, inzh.; PAL'CHIK, Petr Karpovich, inzh.; LITVINENKO,  
Melan'ya Dmitriyevna, inzh.; SVARICHEVSKIY, Lyubomir Vladimirovich  
[Svorychevs'kyi, L.V.], inzh.; OSOVSKAYA, I. [Osovs'ka, I.], red.;  
ZELENKOVA, Ye. [Zelenkova, IE.], tekhn.red.

[Local binding materials based on new raw materials of the Ukraine]  
Mistsevi v'iazhuchi na novii syrovyni Ukrainy. Za zahal'noi red.  
I.IA.Slobodiansky. Kyiv, Derzh.vyd-vo lit-ry z budivnytstva i  
arkhit.URSR, 1960. 115 p. (MIRA 13:10)

(Ukraine--Binding materials)

CHERKASOV, Nikolay Antonovich, kand. tekhn. nauk; POLTORATSKAYA, E., red.  
PODOL'SKAYA, P., tekhn. red.

[Masonry and facings] Kamennye i oblitsovochnye raboty. Izd.2., dop.  
i perer. Kiev, Gos.izd-vo lit-ry po stroit. i arkhit. USSR, 1961.  
366 p. (MIRA 14:6)

(Masonry)



CHERKASOV, Nikolay Georgiyevich; KOROBov, P.I., red.; MEDVEDEVA, R.A.,  
tekh.red.

[The mighty steps of the Soviet industry] Moguchaiia postup'  
sovetskoi industrii. Moskva, Izd-vo "Sovetskaiia Rossiia,"  
1959. 43 p. (MIRA 12:12)  
(Russia--Economic policy)

KANIBOLOTSKIY, N.K.; CHERKASOV, N.I.

Prepare for processing sugar beets harvested by combines. Sakh. prom.  
31 no.4:9-11 Ap '57. (MLRA 10:6)

1. Voronezhskiy sakhsveklotrest.  
(Sugar beets--Harvesting)

Alloy, V.I., head. techn. work: Chernikov, N.S.; Shchepetilnikov, N.S.  
head. techn. work; Shchepetilnikov, N.S.

Improving the quality of pipe of high alloy and low alloy  
brand steel. Mot. i gornorud. prom. no.4:44-50 Il-Ag 1944.  
(NIIA 1944)

*CHERKASOV, N. KH.*

USSR/Corrosion - Protection From Corrosion

J.

Abs Jour : Referat Zhur - Khimiya, No 9, 1957, 33162

Author : Cherkasov, N.Kh., Shapko, T.S., Shiroglazova, M.A.

Inst :

Title : Corrosion of Primary Gas Concensers

Orig Pub : Koks i khimiya, 1956, No 5, 45-48

Abstract : The causes have been determined of the corrosion of primary gas condensers at the Nizhne-Tagilsk coking plant.  
To control the corrosion it is proposed to treat the water with water glass.

Card 1/1

3  
14-3

✓ Precipitating pitches from tars by the use of steam injection. I. L. Liplavk, T. P. Varshavskii and V. P. Cherkasov. Coke Chem. Plant, Nizhny Tag. 1955, No. 8, 37-42. A large percentage of the pitches and other solids in tars resist sedimentation because of slight differences in sp. gr. (less than 0.1%) between the tars and the solid phase and also because of the presence of pitches with apparent gravities lower than that of the tars. Results of elaborate expts. are reported on the sedimentation characteristics of pitches of different particle sizes and on raising temps. of the tar system.

(b) provision for admitting light into the system

operation

Determination of free acidity in pyridine acids by the  
potentiometric method. N. Kh. Kozlovskaya

Chem. Abstr. 1954, 48, 4844 (1954)

K. Kh. Kozlovskaya, No. 1, 43-4 (1954)

is a typical example of a compound

which simple titration with

10% NaOH. The potentiometric

electrode is described and

1. N. Kozlovskaya, Khimicheskii Zhurnal,  
(Potentiometric analysis) (Pyridine)  
(Hydrogen-ion concentration)

SOV/68-59-6-12/25  
AUTHORS: Pozdeyeva A.G., Cherkasov N.Kh., Grigorova G.I.,  
Cherkasova L.M. and Yaroslavskaya T.A.  
TITLE: The Preparation of Balances of Pyridine Bases on Coking  
Works Using a Polarographic Method of Analysis  
(Sostavleniye balansov piridinovykh osnovaniy na  
koksokhimicheskikh zavodakh s pomoshch'yu polyar-  
graficheskogo metoda analiza)  
PERIODICAL: Koks i Khimiya, 1959, Nr 6, pp 49-51 (USSR)  
ABSTRACT: The application of differential polarographic method for  
the determination of pyridine bases in spent mother  
liquor, ammonium sulphate and raw pyridine bases, is  
described. As a background a 0.1 M aqueous solution of  
calcium chloride and as a standard an aqueous solution  
of pyridine bases isolated from raw pyridine bases  
through sulphates were used. A similar method of  
determining pyridine bases in the raw and debenzolised  
gas, ammonia and mother liquor was previously described  
(A.G. Pozdeyeva, Bulletin of Scientific-Technical  
Information, VUKhIN, 1956, Nr 1, p 68). Using the  
Card 1/2 above methods a balance of pyridine bases on the  
N.-Tagil' Coking Works was carried out (given in the

SOV/68-59-6-12/25

The Preparation of Balances of Pyridine Bases on Coking Works  
Using a Polarographic Method of Analysis

table). It is considered that after some additional  
testing the method may be used for the control of  
production.

There is 1 table.

ASSOCIATION:

Card 2/2

N.-Tagil'skiy metallurgicheskiy kombinat  
(N.-Tagil' Metallurgical Combine)  
(Cherkassov, Cherkassova Goligova and Yemelenskaya);  
and VORON (Pozdeleva).



S/008/60/000/007/001/001  
E071/E233

AUTHORS: Frivalov, V.Ye., Potashnikov, M.M., Cherkasova, L.M.,  
and Cherkasov, N.Kh.

TITLE: Production of "Distilled Naphthalene" for the  
Manufacture of Phthalic Anhydride.

PERIODICAL: Koks i Khimiya, 1960, No. 7, pp. 50-56 (U.S.S.R.)

TEXT: The development of a new method of producing naphthalene suitable for the manufacture of phthalic anhydride is described. It is pointed out that the naphthalene for the above purpose could contain those compounds which do not interfere with the production of anhydride (methylnaphthalenes, thionaphthene) and free from organic non-volatile residues, ash and unsaturated compounds. Of the latter, unsaturated compounds are particularly harmful as their polymerisation products cause choking of air-naphthalene mixture pipe-lines in the anhydride plant. A study of the content of unsaturated compounds and non-volatile organic residue in naphthalene raw and finished products, summarised in Table 1, indicated that even in crystalline naphthalene the  
Card 1/5

✓

S/068/60/000/007/001/001  
EO71/E233

Production of "Distilled Naphthalene" for the Manufacture of Phthalic Anhydride

content of unsaturated compounds amounted to 0.33-0.45%. A study of the distribution of unsaturated compounds in the process of pressing naphthalene (Table 2) indicated that the main part of unsaturated compounds is transferred into the filtrate. The transformation of unsaturated compounds in various naphthalene products into non-volatile residue was investigated by retaining various naphthalene products in laboratory at 20°C over a period of one month and determining periodically the content of naphthalene, unsaturated and organic non-volatile residue (Table 3). The results obtained indicate a slow transfer of unsaturated compounds into resins. The process will be obviously much faster under oxidising conditions and elevated temperatures prevailing in the air-naphthalene pipe lines of an anhydride plant. The authors proposed to produce "distilled naphthalene" by redistilling washed naphthalene fraction. The washing process consists of treatment with 20% sodium hydroxide, 25% sulphuric acid and 93-94% concentrated acid with subsequent neutralisation with a 20%

✓

Card 2/5

S/068/60/000/007/001/001  
E071/E233

Production of "Distilled Naphthalene" for the Manufacture of Phthalic Anhydride

sodium hydroxide. In this way the main part of phenols is extracted, nitriles saponified and unsaturated compounds are polymerised. On subsequent redistillation the organic non-volatile residue including the products of polymerisation and mineral admixtures are left in still residues and the distillate will consist mainly of naphthalene and methylnaphthalenes. The method was tested on laboratory and industrial scales. The results of laboratory experiments are shown in table 4 and of industrial production in tables 5 and 6. The washing scheme in the industrial production was as follows: purification of dephenolised and depyridinised fraction from unsaturated was done with 93.5% sulphuric acid: mixing of the fraction with acid - 1 hour (stirring by bubbling air) settling 30 minutes, washing with hot water - 30 minutes. The results obtained indicated that with about 5% (by weight) of concentrated acid the main content of unsaturated compounds was removed. The wash losses amounted to 3-4% and included not only losses due to sulphonation of naphthal-

Card 3/5

S/068/60/000/007/001/001  
E071/E233

Production of "Distilled Naphthalene" for the Manufacture of  
Phthalic Anhydride

ene but also due to the removal of residual phenols, bases and partially unsaturated compounds. The yield of "distilled naphthalene" depends on the design of the still, i.e., on the amount left in the still. In laboratory experiments it amounted to 95.3% and in industrial - to 93.5% of the washed fraction. Nevertheless the overall yield of naphthalene in respect of its content in the washed naphthalene fraction amounted to 100% (6.6% of methylnaphthalenes). The production of phthalic anhydride from "distilled naphthalene" was tested on laboratory and industrial scales with satisfactory results. A comparison of industrial results of manufacture of phthalic anhydride from crystalline and "distilled" naphthalene is given in table 7. The yield of phthalic anhydride calculated on pure naphthalene was somewhat higher (about 0.8%) from "distilled" naphthalene due to the presence of methylnaphthalenes. It is considered that the proposed technology of treatment of naphthalene fraction is simpler than the existing methods and permits a maximum possible utilisation of

Card 4/5

S/062/60/000/007/001/001  
E071/E233

Production of "Distilled Naphthalene" for the Manufacture of  
Phthalic Anhydride

naphthalene raw materials. There are 7 tables and 5 references,  
all Soviet.

ASSOCIATION: N.-Tagil'skiy metallurgicheskiy kombinat  
(N.-Tagil' Metallurgical Combine)

✓

Card 5/5

34619  
S/068/62/000/003/001/003  
E071/E435

5.3300  
AUTHORS: Privalov, V.Ye., Cherkasov, N.Kh., Levantovich, I.A.,  
Yaroslavskaya, T.A.

TITLE: The production of sulphur free benzole from pure  
benzole by chemical purification methods

PERIODICAL: Koks i khimiya, no.3, 1962, 42-44

TEXT: An investigation of the possibility of production of  
sulphur free benzole suitable for the manufacture of cyclohexane  
from pure benzole by chemical purification methods is described.  
On the assumption that the removal of thiophene from pure benzole  
under industrial conditions is sufficiently developed, the authors  
concentrated on the removal of other sulphurous compounds. The  
determination of small quantities of carbon disulphide was based  
on the reaction of carbon disulphide with secondary amines in the  
presence of copper salts with the formation of copper  
dithiocarbamate - a brown compound, well soluble in benzene.  
In the first instance the removal of carbon disulphide was  
attempted by washing of pure benzene with industrially available  
amines with additions of a number of other reagents: formaline  
Card 1/3

S/068/62/000/003/001/003  
E071/E435

The production of sulphur free ...

with ammonium sulphate and ammonia, monomethylolurea in acid and alkali medium, dimethylolurea in acid and alkali medium, formaline with calcium chloride, formaline with calcex, formaline with lime, formaline with aniline, formaline in alkali and acid medium. On the whole, the experiments were unsuccessful; in some cases a complete removal of thiophene and a decrease in carbon disulphide was obtained. The latter was ascribed to the presence of methyl alcohol in formaline. This was confirmed by washing pure benzene with alcoholic solutions of alkali which produced benzene either free or containing not more than 0.0001% of carbon disulphide. The optimal consumption of methanol solution of alkali was 6 to 8%. Abstractor's note: Concentration of alkali not given. Thiophene is not removed under these conditions. Its removal was achieved by washing with 15% of steam with an addition of 1% of formaline. On the basis of the above results the following procedure was tested on an industrial scale. Starting material: benzene sp.gr. 0.877 drop point 79.8°C, 95% evaporated at 83°C, colour 0.35, bromine number 0.06, total sulphur 0.02%, carbon disulphide 0.0069% crystallization

Card 2/3

The production of sulphur free ...

S/068/62/000/003/001/003  
E071/E435

temperature +4.7°C. Washings: preliminary wash with 1% of oleum for 10 min, wash with 16% of oleum for 9 hours, two water washes (total consumption of water 7%, time 5 min each). preliminary wash with methanol solution of alkali (0.3%, 10 min). wash with methanol alkali (3.3%, 6 hours), two water washes (total consumption 6%, 5 min each). Washed benzole was rectified on a column with 34 plates. The product obtained was free from thiophene and carbon disulphide, sp.gr. 0.87, drop point 79.8°C, 95% at 80.4°C, crystallization temperature +5.5°C. The yield of sulphur free benzene was about 90%.

ASSOCIATIONS: VUKhIN (V.Ye.Privalov)  
NTMK (the remaining authors)

Card 3/3



MUSTAFIN, F.A.; CHERKASOV, N.Kh.; BERKUTOVA, Ye.I.

Box coking test of coal charges with the addition of blast  
furnace flue dust. Koks.i khim. no.12:28-29 '62. (MIRA 16:1)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.  
(Coke—Testing)

CHERKASOV, N.Kh.; GRIGOROVA, G.I.; DETKOVA, Ye.A.

Polarographic analysis used in the control of coal-chemical  
production. Zav. lab. 28 no.9:1146 '62. (MIRA 16:6)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.  
(Coke industry—By-products)  
(Polarography)

KUPERMAN, P.I.; GRYAZNOV, N.S.; MOCHALOV, V.V.; FROLOV, V.V.; MUSTAFIN, F.A.;  
 PUSHKASH, I.I.; SLAVGORODSKIY, M.V.; LAZAREV, B.L.; BORISOV, V.I.;  
 Primali uchastiye: CHERKASOV, N.Kh.; ZABRODSKIY, M.P.; RYTCHENKO,  
 A.I.; RUTKOVSKAYA, Ye.N.; SAITBURGANOVA, N.I.; SHTAGER, A.A.;  
 SHISHLOVA, T.I.; BUDOL', Z.P.; MEN'SHIKOVA, R.I.; GORELOV, L.A.;  
 AGARKOVA, M.M.; KOUROV, V.Ya.; KOGAN, L.A.; BEZDVERNYI, G.N.;  
 POKROVSKIY, B.I.

Effect of the lengthening of the coking time on the coke quality and  
 testing of coke in the blast furnace process. Koks i khim. no.9:  
 23-28 '63. (MIRA 16:9)

1. Vostochnyy uglekhimicheskiy institut (for Kuperman, Gryaznov,  
 Mochalov, Kogan, Bezdvorny, Pokrovskiy). 2. Ural'skiy institut  
 chernykh metallov (for Frolov). 3. Nizhne-Tagil'skiy  
 metallurgicheskiy kombinat (for Mustafin, Pushkash, Slavgorodskiy,  
 Lazarev, Cherkasov, Zbrodskiy, Rytchenko, Rutkovskaya,  
 Saitburanova, Shtager, Shishlova, Budol', Men'shikova).
4. Koksokhimstantsiya (for Borisov, Gorelov, Agarkova, Kourov).  
 (Coke--Testing)

CHERKASOV, N.N., smennyy mekhanik; KLOCHKOV, S.F., elektromonter

Improving the electric stop circuit of drawing and sliver lap machines. Tekst.prom. 21 no.7:27-28 J1 '61. (MIRA 14:8)

1. L'nofabrika "Znanya truda", Kostroma (for Cherkasov).  
(Textile machinery) (Electric circuits)

1. CHERKASOV, N. Ye.
2. USSR (600)
4. Mining Engineering
7. Two points of view. Ugol' 28, No. 5, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

CHASOVITIN, P.A.; CHMERKASOV, N.Ye., laureat Stalinskoy premii, inzhener.

The first section of the Leningrad subway. Transp.stroi. 6 no.1:  
8-13 Ja '56. (MLRA 9:5)

1. Glavnyy inzhener Glavtonnel'metrostroya.  
(Leningrad--Subways)

14(2)

PHASE I BOOK EXPLOITATION

SCN/2700

Karasev, Nikolay Fedorovich, V.G. Matsyuk, V.I. Razmerov,  
P. A. Chasovitin, and N.Ye. Cherkasov

Novaya tekhnika v stroitel'stve tonneley metropolitenov SSSR (New Techniques  
in Subway Tunnel Construction in the USSR) Moscow, Transzheldorizdat, 1959.  
139 p. 5,000 copies printed.

General Ed.: P.A. Chasovitin, Candidate of Technical Sciences; Ed.:  
Ye.A. Velichkin, Engineer; Tech. Ed: P.A. Khitrov.

PURPOSE: The book is intended for subway construction workers.

COVERAGE: The authors discuss earth-moving equipment, mechanized tunnel shields,  
and loading and hauling equipment for tunnel constructions. Also discussed  
are tunnel constructions and methods of producing and assembling segments of  
tunnel lining made from reinforced-concrete blocks or tubing. Modern methods  
of constructing shafts, escalators, through and station tunnels, and means of  
mechanizing individual construction operations are presented.

Card 1/3

New Techniques in Subway Tunnel (Cont.)

SOV/2700

The authors thank Academician A.I. Baryshnikov for suggestions. There are 25 references, all Soviet.

TABLE OF CONTENTS:

From the Authors	3
Ch. I. Brief Review of the Development of Subway Tunnel Construction in the USSR	4
Ch. II. Surface Equipment and Operations in Subway Tunnel Construction	11
Ch. III. Mechanized Tunneling Shields	21
Ch. IV. Loading and Underground Transport of Rock	59
Ch. V. Precast Reinforced Concrete in Tunnel Construction	72

Card 2/3



New Techniques in Subway Tunnel (Cont.)	SOV/2700
Ch. VI. Methods of Constructing Shafts and Tunnels	96
Ch. VII. Mechanization of Individual Construction Operations	123
Bibliography Cited	139
AVAILABLE: Library of Congress (TF847.R9C45)	

Card 3/3

GO/gmp  
12-9-59

CHERKASOV, N.Ye., kand.tekhn.nauk

Using cutters with rotating cutting edges in heading machines.  
Transm.stroi. 9 no.12:15-19 D '59. (MIRA 13:5)  
(Mining machinery)

CHASOVITIN, P.A., kand.tekhn.nauk; CHERKASOV, N.Ye., kand.tekhn.nauk

Mechanized rock excavation in tunnel construction. Transp.stroi.  
10 no.6:15-19 Je '60. (MIRA 13:7)  
(Tunneling)

SMIRNOV, O.V., inzh.; CHASOVITIN, P.A., kand.tekhn.nauk; CHERKASOV, N.Ye.,  
kand.tekhn.nauk

Operational tests of a powered tunnel shield. Transp.stroi. 11  
no.3:47-49 Mr '61. (MIRA 14:3)  
(~~Tunneling~~—Equipment and supplies)

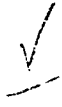
S/659/62/009/000/028/030  
1003/1203

AUTHORS Averin, V. V., Cherkasov, O. A., and Samarin, A. M.

TITLE: Deoxidation of molten nickel

SOURCE Akademiya nauk SSSR. Institut metallurgii. Issledovaniya po zharoprochnym splavam. v. 9. 1962. Materialy Nauchnoy sessii po zharoprochnym splavam (1961 g.), 205-218

TEXT: Nickel-base heat-resisting alloys are widely used in the jet plane, and rocket industry. The influence of deoxidizing elements such as iron, cobalt, chromium, manganese, vanadium, titanium, silicon, carbon, and aluminum on both the solubility and on the activity of oxygen in molten nickel was investigated. It was also shown that the activity of these elements is actually lower in nickel than in iron, which is in good agreement with the values for the heat of formation of intermetallic compounds of the type  $Ni_xR_y$  and  $Fe_xR_y$ . A comparison was made between the influence of the above deoxidizing agent on the activity of oxygen in molten nickel and in molten iron. A relationship between the decrease in activity of oxygen and its minimum solubility was found. In the discussion, A. V. Emyashev pointed out that the total oxygen content in nickel does not determine its properties, as about 80% of the oxygen is bound in the form of oxides, and it is the non-metallic inclusions which must be taken into account. There are 5 figures and 3 tables.



Card 1/1

CHERKASOV, O.V., prof.; METELITSA, K.V. [Metelitsia, K.V.]

Analysis of the clinical course of poliomyelitis. Ped., akush. i gin.  
19 no.4:3-8 '57. (MIRA 13:1)

1. Klinika detskikh bolezney infeksionnykh bolezney (zav. - prof.  
O.V. Cherkasov) Kiyevskogo ordena Trudovogo Krasnogo Znameni medi-  
tsinskogo instituta im. akad. A.A. Bogomol'tsa (direktor - dots. I.P.  
Alekseyenko) na baze klinicheskoy bol'nitsy im. Oktyabr'skoy revo-  
lyutsii (direktor - D.D. Sergiyenko).  
(POLIOMYELITIS)

KOSHEL', Nikolay Grigor'yevich [Koshel', M.H.], kand. med. nauk;  
CHERKASOV, O.V., red.; LEVCHUK, A.O., tekhn. red.

[How to raise a healthy child] Iak vyrostyty zdorovu dytym.  
Kyiv, Derzh. medychne vyd-vo URSR, 1961. 34 p.

(MIRA 15:3)

(CHILDREN--CARE AND HYGIENE)

LAPSHUN, Ginda Borisovna[Lapshun, H.B.]; TITOVA, Yelizaveta  
Mikhaylovna[Tytova, IE.M.]; CHEPKASCV, O.V., red.;  
CHUCHUPAK, V.D., tekhn. red.

[Organization of antituberculosis care for children] Dosvid  
organizatsii protytuberkul'oznoi dopomohy ditiam. Kyiv,  
Derzhmedvydav URSR, 1961. 54 p. (MIRA 15:7)  
(TUBERCULOSIS--PREVENTION) (CHILDREN--DISEASES)



BEN'KOVICH, Il'ya I'vovich [Ben'kovych, I.I.], prof.; CHERKASOV,  
O.V., red.

[Poliomyelitis and its health resort treatment] Polio-  
mielit i kurortne likhuvannia tobo. Kyiv, Zdorov'ia,  
1964. 122 p. (MIRA 18:1)

1ST AND 2ND ORDERS		3RD AND 4TH ORDERS	
CHERKASOV, P. A.		9	
<p>CA</p> <p>The effect of titanium on the quality of medium-carbon steel. V. P. Revenitsov and P. A. Cherkasov. <i>Ural. Akad. Nauk SSSR, No. 12, 22-5(1939); Chem. Zentr. 1940, II, 1203.</i></p> <p>Expts. on deoxidizing steel with Fe-Ti confirm the observations of Mes'kin and Margolin (C. A. 30, 7832*) that a Ti content of 0.05% has a beneficial effect on steel. R. and C. found that a Ti content of not more than 0.16% effects a fine-grained structure. This is attributed to the formation of heat-resistant Ti oxides, which counteract the growth of austenitic grains. In the presence of Ti local liquation, distribution of pipes over the entire ingot, the gas content (especially N), and slag inclusions are inhibited; the tensile strength, resistance to wear, hardness and yield point are raised. The usable portion of the ingot is greatest with a content of 0.1-0.2% of Ti.</p> <p>M. Hosh</p>			
ASST. S. L. A. METALLURGICAL LITERATURE CLASSIFICATION			
547085		547085	

CHERKASOV, P.A.; AVERIN, V.V.; SAMARIN, A.M.

The influence of Mn. on the solubility of  $O_2$  in steels of  
the type Permalloy.

report submitted for the 5th Physical Chemical Conference on  
Steel Production.

MOSCOW      30 JUN 1959

S/137/62/000/004/005/201  
A006/A101

AUTHORS: Cherkasov, P. A., Averin, V. V., Samarin, A. M.

TITLE: The effect of manganese on solubility of oxygen in nickel and ferro-nickel melts

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 4, 1962, 10, abstract  
4A50 (V sb. "Fiz.-khim. osnovy proiz-va stali", Moscow, AN SSSR  
1961, 33 - 40)

TEXT: The method of establishing an equilibrium between liquid metal and the gaseous phase with a known oxidizing potential, was used to investigate the effect of Mn on solubility of O in Ni and Fe-Ni alloys "79-Permalloy" and "45-Permalloy" at 1,600°C. The oxidizing capacities of Si and Mn in Ni and 79-Permalloy were compared. The similar values of O solubility in Ni and 79-Permalloy under the effect of Mn and Si are explained by the effect of the strong bond of Si in Ni. It is concluded that it is expedient to use Mn for deoxidation of magnetic Fe-Ni-alloys; Mn has in the given alloys a strong deoxidizing capacity. Si, affecting a reduction of O in the given alloys entails, almost as Mn, im-

Card 1/2

The effect of manganese on...

S/137/62/000/004/005/201  
A006/A101

paired magnetic properties of the alloys. The authors revealed a decrease of O solubility in Ni and Ni-base alloys under the effect of Mn, which is in a satisfactory agreement with the different values of partial energy of O dissolving in Mn and in the investigated melt. A reduction of O concentration for Ni and Ni-alloys passes through a minimum at a definite Mn concentration. The position of the minimum of O solubility is explained on the basis of the values of O bond with the alloy components. For Ni and Fe-Ni-alloys 79- and 45-Permalloy, increased O solubility was noted at Mn concentration raised over 0.6 - 0.8; 0.9 - 1.1%, respectively. A distinct relationship was revealed between the relative decrease of O concentration and the difference in the values of partial energy of O dissolving in Mn and the melts investigated. The value of the relative potential of the gaseous phase, corresponding to the appearance of the oxide phase, which is in an equilibrium with liquid Fe, Ni and their alloys at 1,600°C, decreases with a higher Mn concentration in the alloy. The value of the oxidizing potential of the gaseous phase is different for the metals and alloys investigated; it increases with a lesser affinity of the metal (alloy) to O. In the range of O solubility reduced under the effect of Mn the non-metallic inclusions, formed during crystallization of the metal, become more dispersed. At a higher O solubility they become coarser.

Authors' summary

[Abstracter's note: Complete translation]  
Card 2/2

AVERIN, V.V.; CHERKASOV, P.A.; SAMARIN, A.M.

Deoxidation of nickel melts. Issl. po zharopr. splav. 9:204-218  
'62. (MIRA 16:6)  
(Nickel--Metallurgy)

S/509/62/000/011/001/019  
EO71/E351

**AUTHORS:** Averin, V.V., Cherkasov, P.A. and Samarin, A.M.  
**TITLE:** Deoxidation of nickel alloys  
**SOURCE:** Akademiya nauk SSSR. Institut metallurgii. Trudy. no. 11. Moscow, 1962. Metallurgiya, metallovedeniye, fiziko-khimicheskiye metody issledovaniya. 36 - 53  
**TEXT:** The influence of deoxidizing elements (cobalt, iron, chromium, manganese, vanadium, silicon, carbon, titanium and aluminum) on the solubility and activity of oxygen in liquid nickel was investigated. Equilibrium was established between the liquid metal, the oxide phase and an argon-hydrogen-steam mixture of known composition. The experimental melts (100 - 130 g) were effected in a high-frequency furnace, using zirconia or alumina crucibles; the temperature was measured to  $\pm 10^{\circ}\text{C}$ ; sampling was by a silica tube without disturbing the composition of the gaseous phase. The activities of the deoxidizing elements in nickel melts were calculated. Generally, the activity of deoxidizing elements in nickel decreases more than in iron; this is confirmed by data on heats of formation of compounds of the type  $\text{Ni}_x\text{R}_y$  and  $\text{Fe}_x\text{R}_y$   
 Card 1/2

## Deoxidation of nickel alloys

S/509/62/000/011/001/019  
E071/E351

(where R - deoxidizing element). The influence of deoxidants on the activity of oxygen in liquid metal was studied, the data obtained for nickel being compared with those for iron. The greater deoxidizing power of the deoxidants in liquid nickel (compared with iron) is in accordance with their greater effect on the activity of the oxygen in the melt. A relationship was shown to exist between the decrease in the activity of the oxygen and its minimum solubility in the melt. A decrease in the activity of the oxygen in a melt, due to stronger bonds between the oxygen and the deoxidizing agent, leads to an increase in the concentration of oxygen in the Me-R melt compared with the pure metal in equilibrium with an atmosphere of the same oxygen potential. However, the value of the oxidizing potential decreases to a greater extent, causing a sharp decrease in the oxygen content at low concentrations of a deoxidizing element. Above a certain deoxidant concentration a position is reached where the effect of the powerful oxygen bonding is so strong that increasing amounts of deoxidant cause an increase in the oxygen content of the melt, in spite of the decrease in oxygen potential of the gas phase. There are 8 figures.

Card 2/2



CHERKASOV, P.A.; AVERIN, V.V.; SAMARIN, A.M.

Deoxidation by manganese of magnetically soft alloys on an iron  
and nickel base. Trudy Inst. met. no.11:54-64 '62. (MIRA 16:5)  
(Iron-nickel alloys--Metallurgy) (Manganese)

AVERIN, V.V.; CHERKASOV, I.A.; SAMARIN, A.M.

Deoxidation of cobalt melts. Trudy Inst. met. no.14:58-67 '63  
(MIRA 17:8)

1. Chlen-korrespondent AN SSSR; otvetsvennyy redaktor zhurnala  
"Trudy Instituta metallurgii" (for Samarin).

L 63762-55 EPA(s)-2/EWT(m)/EPT(n)-2/EWP(t)/EWP(z)/EWP(h) IJP(c) JD/WH/HH/JG

ACCESSION NR: AP5018092

UR/0020/65/163/001/0166/0168

AUTHOR: Tarakanov, Yu. V.; Cherkasov, P. A.; Averin, V. V.; Samarin, A. M.  
(Corresponding member AN SSSR)

TITLE: Effect of chromium on the deoxidizing capacity of silicon in nickel  
and chromium melts

SOURCE: AN SSSR. Doklady, v. 163, no. 1, 1965, 166-168

TOPIC TAGS: deoxidizing capacity, nickel containing melt, chromium containing  
melt, silicon, oxide phase, oxidation potential, activity coefficient, melt  
deoxidation

ABSTRACT: The effect of chromium on the deoxidizing capacity of silicon in  
melts of nickel and chromium was determined with the aid of a previously  
described technique (V. V. Averin, P. A. Cherkasov, A. M. Samarin. Tr. inst.  
metallurgii, 11, Izd. AN SSSR, 1962, p 36) for investigating the equilibrium  
between the melts, the oxide phase, and a steam-hydrogen mixture with known  
oxidation potential. The deoxidizing capacity of silicon was determined at  
1600°C in Ni melts containing 5, 10, 15, and 20% Cr; the concentration of Si

Card 1/5

L 63762-65

ACCESSION NR: AP5018092

0

ranged from 0.1 to 2.0%. Electrolytic nickel and chromium, pure silicon, and zirconium-dioxide crucibles were used in this investigation. Fig. 1 shows the solubility of oxygen as a function of Si content in a Fe alloy containing 20% Cr and in pure nickel; it can be seen that the solubility of oxygen decreases with increasing content of silicon in the melts. The effect of silicon on the activity of oxygen, determined on the basis of these findings, was found to decrease with increasing content of Cr in the melt (Fig. 2): this effect reaches its maximum for a Ni melt containing 5% Cr, whereas in a Ni melt containing 20% Cr silicon virtually does not affect the activity of oxygen. By contrast, the activity coefficient of silicon increases with increasing concentration of Cr, since the presence of Cr weakens the strength of the bonding between Si and Ni. The method of calculating the activity coefficient of Si, also described previously by the authors (see bibl. ref. above), can be used when the concentration of Si is such as to condition the formation of the oxide phase (products of the deoxidation reaction), which entirely consists of silica. However, the concentration of Si required for this purpose varies as a function of the concentration of Cr. For example, in a Ni-Si melt containing more than 0.1% Si the deoxidation product is pure silica, whereas the addition of 5% Cr to the molten Ni causes the appearance of silica in the presence of as little as 0.25-

Card 2/5

L 63762-65

ACCESSION NR: AP5018092

0.30% Si. Orig. art. has: 1 table, 2 figures.

ASSOCIATION: none

SUBMITTED: 22Dec64

ENCL: 02

SUB CODE: MM, GC

NO REF SOV: 002

OTHER: 000

Card 3/5

L 63762-65

ACCESSION NR: AP5018092

INCLOSURE: 01

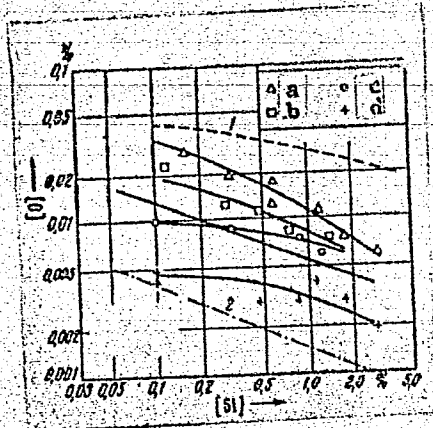


Fig. 1. Solubility of oxygen in melts of nickel and chromium as a function of the content of silicon.

- a - 20% Cr
- b - 15% Cr
- c - 10% Cr
- d - 5% Cr
- 1 - Fe-Cr (20%)-Si
- 2 - Ni-Si
- 3 - Fe-Si

Card 4/5

L 63762-65

ACCESSION NR: AP5018092

ENCLOSURE: 02

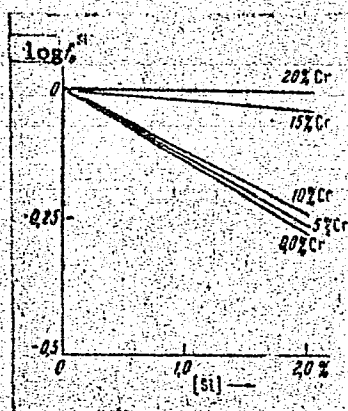


Fig. 2. Activity coefficient of silicon as a function of the concentration of silicon in nickel-chromium melts

Card 5/5

L 34360-66 EWT(m)/EWP(t)/ETI IJP(c) JW/JD/HW/JG

ACC NR: AP5027233

(A)

SOURCE CODE: UR/0020/65/164/006/1355/1357

AUTHOR: Cherkasov, P. A.; Averin, V. V.; Samarin, A. M. (Corresponding member, AN SSSR)

ORG: Institute of Metallurgy im. A. A. Baykov (Institut metallurgii)

TITLE: Deoxidizing capacity and activity of silicon in cobalt-chromium melts

SOURCE: AN SSSR. Doklady, v. 164, no. 6, 1965, 1355-1357

TOPIC TAGS: silicon, metal oxidation, cobalt, chromium, oxygen, SOLUBILITY, METAL

ABSTRACT: Experimental data, obtained during an investigation of the solubility of oxygen in Co-Cr melts containing Si proved the dependence of oxygen solubility on the content of Si: an increase in concentration of Si decreased the solubility of oxygen both in Co and Co-Cr melts. An increase in the content of Si in the Co-Cr melts caused a decrease in value of the oxidation potential of the gas phase present in equilibrium with the metal and oxide phase. The value of the oxidation potential depended on the content of Cr in the melt: the higher the content of Cr the lower the value of the oxidation potential. This indicated that the activity of Si (at the same concentration) was higher in melts having a higher concentration of Cr, because its oxidation occurred at a lower partial pressure of oxygen. The coefficient of activity of Si was determined by comparing the thermodynamic conditions of Si oxidation in Co-Cr melts with those in

Card 1/2

UDC: 669.255



3360-66

ACC NR: AP5027233

the pure Si. The value of the coefficient of activity of Si was determined from the equation  $\log \gamma_{Si} = \log K - \log K'$ , where  $\log K$  is 7.14 at 1600C, according to J. P. Coughlin (U.S. Bureau Mines Bull., Washington, No. 542, 1954). The values of  $\log K'$  were constant for each melt at a concentration of 0.3 - 1% Si, but they decreased with increased Cr content in the melt. The coefficients of activity of Si for melts containing 5, 10, 15, and 20% were determined as  $3.2 \times 10^{-3}$ ,  $5 \times 10^{-3}$ ,  $1 \times 10^{-2}$ , and  $1.6 \times 10^{-2}$ , respectively. The low activity of Si in the Co-Si melts, therefore, increased considerably in the presence of Cr. Orig. art. has: 4 fig., 1 formula, and 1 table.

SUB CODE: 11/ SUBM DATE: 07Jul65/ ORIG REF: 004/ OTH REF: 001

Card 2/2

SECRET REF ID: A60300000  
REF ID: A60300000  
JIP(c)  
JP/HM/JG  
SOURCE CODE: UR/0020/66/169/006/1383/1386

AUTHOR: Averin, V. V.; Cherkasov, P. A.; Samarin, A. M. (Academician)

ORG: Institute of Metallurgy im. A. A. Baykov, Academy of Sciences SSSR (Institut metallurgii Akademii nauk SSSR)

TITLE: Solubility of nitrogen in liquid cobalt and cobalt-titanium and cobalt-molybde-  
num melts

SOURCE: AN SSSR. Doklady, v. 169, no. 6, 1966, 1383-1386

TOPIC TAGS: solubility, solution property, free energy, nitrogen, cobalt, titanium, molybdenum, alloy

ABSTRACT: Solubility of nitrogen in liquid cobalt and in cobalt-titanium--(0.25-1.3% Ti) and cobalt-molybdenum--(5-20% Mo) melts was studied by means of measuring the volume of the hot melt after dissolving nitrogen in 1500-1700°K range and at nitrogen pressure of 15-760 mm Hg. The volume of the hot melt was measured with argon and the nitrogen solubility was calculated according to the method of R. D. Pehlke and I. F. Elliott (*Trans. AIME*, 218, 1088 (1959)). The experimental setup is described in detail. The nitrogen solubility in molten cobalt at 1 atm pressure was found to obey the relationship  $\log [\%N] = 3540/T - 0.435$ . The free energy of the nitrogen dissolving in molten cobalt was found to be:  $\Delta F = 16,200 + 1.99 T$  cal/gram-atom of nitrogen. At

Card 1/2

UDC: 541.123.38

L 08883-67

ACC NR: AP6030560

1600°K, the dependence of the coefficient of nitrogen activity upon titanium concentration in the cobalt-titanium melts was found to be:

$$\lg f_N^{\text{Ti}} = -0,45[\% \text{Ti}].$$

The effect of molybdenum on nitrogen activity in the Co-Mo melts at 1600°K was found to be

$$\lg f_N^{\text{Mo}} = -0,015[\% \text{Mo}].$$

A. M. Zelichenko took part in the work. Orig. art. has: 4 figures, 6 formulas.

SUB CODE: 11/

SUBM DATE: 28May66/

ORIG REF: 004/

OTH REF: 003

Card 2/2

CHERKASOV, P. A.)

Glaciers in the western section of the Bol'shaya Almatinka Valley  
in the Trans-Ili Ala-Tau. Izv. AN Kazakh. SSR. Ser. geol. no. 19:  
163-178 '55. (MLRA 9:8)  
(Bol'shaya Almatinka Valley--Glaciers)

CHERKASOV, P.A.

Ancient glaciation of the Dzungarian Ala-Tau as illustrated by  
the Lepsa River Basin. Vop.geog.Kaz.no.2:5-64 '57. (MIRA 10:7)  
(Lepsa Valley--Glaciers)

CHERKASOV, P. A.

Current glaciation in the Bol'shoy Baskan River Basin of  
the Dzungarian Ala-Tau. Trudy Sekt.geog. AN Kazakh. SSR  
. no.5:33-78 '59. (MIRA 13:4)  
(Bol'shoy Baskan Valley--Glaciers)

CHERKASOV, P.A.

Kazakhstan's elder geographer. Vest.AN Kazakh.SSR 15 no.1:  
86-88 Ja '59. (MIRA 12:1)  
(Pal'gov, Nikolai Nikitich, 1888- )

CHERKASOV, P. A., Cand Geograph Sci -- (diss) "Contemporary glaciation of the northern slope of the Dzhungursk Alatau range (Using as examples the basins of the Ieps, Terekta, Baskan and Sarkan Rivers," Alma-Ata, 1960, 19 pp. (Tashkent State University imeni V. I. Lenin)

(KL, 38-60, 106)



CHERKASOV, P.A.

Current glaciation in the Malyy Baskan River basin of the  
Dzungarian Ala-Tau. Trudy Sekt.geog.AN Kazakh. S.S.R.  
no.6:65-94 '60. (MIRA 13:7)  
(Malyy Baskan Valley--Glaciers)

CHERKASOV, P.A.

Main features of the present-day glaciation of the Baskan River  
Basin in the Dzhungarian Ala-Tau. Trudy Otd. geog. AN Kazakh. SSR  
no.7:195-208 '60. (MIRA 13:12)

(Baska Valley--Glaciers)

N

\*

CHERKISOV, P.A.

Glacier dynamics in the Baskan River basin of the Dzungarian Ala-Tau  
in 1956-1957. Trudy Otd. geog. AN Kazakh. SSR no.8:75-97 '61.  
(MIRA 14:8)

(Baskan Valley--Glaciers)

MAKAREVICH, K.G., kand.geograficheskikh nauk; CHEFKASOV, P.A., kand.  
geograficheskikh nauk

Discussion on problems in glaciology. Vest.AN Kazakh.SSR 17  
no.6:99-100 Je '61. (MIRA 14:6)  
(Glaciology--Congresses)

CHERKASOV, P.A.

First results of studying the recent glaciation of the Dzungarian  
Ala-Tau during the International Geophysical Year. Trudy otd.  
geog. AN Kazakh. SSR no.9:85-104 '62. (MIRA 15:6)  
(Dzungarian Ala-Tau—Glaciology)

PAL'GOV, N.N., otv. red.; ZENKOVA, V.A., red.; MAKAREVICH, K.G., red.;  
~~CHEKASOV, P.A., red.~~; KOVALEVA, I.F., red.; KHUDYAKOV, A.G.,  
tekhn. red.

[Glaciological research during the IGY]Glistsiologicheskie is-  
sledovaniia v period MGG. Alma-Ata, Izd-vo Akad. nauk Kazakh-  
skoi SSR. No.2.[Trans-<sup>1</sup>li and Dzungarian Ala-Tau]Zailiiskii i  
Dzhungarskii Alatau. 1962. 208 p. (MIRA 15:9)

1. Akademiya nauk Kazakhskoy SSR, Alma-Ata. Otdel geografii.  
(Kazakhstan--Glaciological research)

CHERKASOV, P.A., kand.geograficheskikh nauk

Secular dynamics of glacier recession in the present glaciation  
of Kazakhstan and Central Asia. Vest. AN Kazakh.SSR 18 no.1:  
28-37 Ja '62. (MIRA 15:2)

(Soviet Central Asia--Glaciers)

PAL'GOV, N.N., otv. red.; ZENKOVA, V.A., red.; MAKAREVICH,  
K.G., red.; CHERKASOV, P.A., red.; OSTROVERKHOV, A.P.,  
red.; KHUDYAKOV, A.G., tekhn.red.

[Glaciological research during the IGY] Gliatsiologicheskie issledovaniia v period MGG. Alma-Ata, Izd-vo AN Kazakhskoi SSR. No.3. [Trans-Ili and Dzungarian Alatau] Zailiiskii i Dzhungarskii Alatau. 1963. 228 p.  
(MIRA 17:2)

1. Akademiya nauk Kazakhskoy SSR, Alma-Ata. Otdel geografii.



CHERKOV, I. I.

Basic characteristics of the existence of glaciers in the  
northern slope of the Dzungarian Alatau. Geog. sbor.  
no. 17:71-80 '64. (MIRA 18:8)

CHERKASOV, P.A.; SVATKOV, N.M., otv. red.

[Ancient glaciation; Dzungarian Alatau] Dzhungarskii  
Alatau; drevnee olednenie. Moskva, 1964. 90 p.  
(MIRA 18:12)

PAL'GOV, N.N., otv. red.; VILESOV, Ye.N., red.; ZENKOVA, V.A.,  
red.; MAKAREVICH, K.G., red.; CHERKASOV, P.A., red.;  
PAL'GOVA, Z.N., red.

[Glaciological research in Kazakhstan] Gliatsiologicheskie  
issledovaniia v Kazakhstane. Alma-Ata, Nauka.  
No.5. 1965. 189 p. (MIRA 19:1)

1. Akademiya nauk Kazakhskoy SSR, Alma-Ata, Sektor fizicheskoy geografii.

CHERKASOV, P. I.

TYUTYUNNIKOV, B. N., BUKHSHSTAB, Z. I., CHERKASOV, P. I.

Lacquer and Lacquering

Experience in splying bituminous lacquer trade mark IUZHNI., Stroi. prom., No. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1952 ~~1957~~, Uncl.